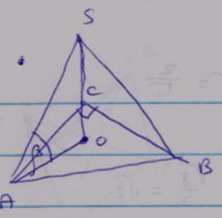
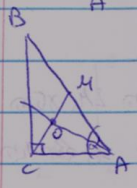
3.82
6



$$S_{ABC} = \frac{AB \cdot AC \cdot \sin\alpha}{2} = \frac{c \cdot c \cdot \cos\alpha \sin\alpha}{2} = \frac{c^2 \sin 2\alpha}{4}$$



$$CM = \frac{1}{2}AB = \frac{1}{2}c \quad . \quad CO = \frac{2}{3}CM = \frac{2}{3} \cdot \frac{1}{2}c = \frac{1}{3}c$$

$$CA = c \cdot \cos\alpha = 0.8c$$

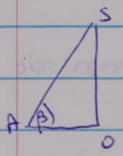
$$\angle MAC = \angle MCA = \alpha$$

משפט הקוסינוס ב $\triangle COA$

$$AO^2 = CO^2 + CA^2 - 2CA \cdot CO \cdot \cos\alpha$$

$$AO^2 = \frac{c^2}{9} + 0.64c^2 - 2 \cdot \frac{c}{3} \cdot 0.8c \cdot 0.8$$

$$AO = c\sqrt{\frac{1}{9} + 0.64 - \frac{2}{3} \cdot 0.64} = c\sqrt{\frac{73}{225}} = \frac{c\sqrt{73}}{15}$$



$$SO = AO \cdot \tan\beta = \frac{\sqrt{73}c \cdot \tan\beta}{15}$$

$$V = \frac{1}{3} \cdot S_{ABC} \cdot SO = \frac{1}{3} \cdot \frac{c^2 \sin 2\alpha}{4} \cdot \frac{\sqrt{73}c \tan\beta}{15}$$

$$= \frac{1}{3} \cdot \frac{c^3 \cdot 0.96}{4} \cdot \frac{\sqrt{73} \tan\beta}{15} = \frac{0.96\sqrt{73} \tan\beta \, c^3}{375}$$

$\sin\alpha = 0.6$

$\sin 2\alpha = 2 \cdot 0.6 \cdot 0.8 = 0.96$